



North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

Donald R. van der Vaart  
Secretary

STATE OF NORTH CAROLINA  
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
DIVISION OF WASTE MANAGEMENT  
SOLID WASTE SECTION

**PERMIT TO OPERATE A SEPTAGE LAND  
APPLICATION SITE**

Waste Management of the Carolinas, Inc.  
Laura Snow  
3920 River Road  
Wilmington, NC 28412

is hereby permitted to operate Septage Land Application Site with permit # **SLAS-24-08** located on NC Hwy 211 in Columbus County at approximate position 34.19057° N latitude and -78.37894° E longitude. This site is permitted only for operations that are conducted in accordance with the representations made in the approved application, with all conditions attached to this permit, and with all of the provisions of 15A NCAC 13B.0800 – Septage Management. Failure to operate as permitted may result in the Department suspending or revoking this permit, initiating action to enjoin the unpermitted operation, imposing administrative penalties, or invoking any other remedy as provided in Chapter 130A, Article 1, Part 2 of the North Carolina General Statutes.

This permit shall be reviewed annually to determine if soil test results and management activities are in compliance with the Septage Management Rules and the conditions of this permit. Modifications, where necessary, shall be made in accordance with rules in effect at the time of review.

Date Issued

5/4/2015

Martin A. Gallagher

Martin A. Gallagher, Supervisor  
Composting & Land Application Branch,  
Solid Waste Section  
Division of Waste Management, NCDENR

## CONDITIONS OF OPERATING PERMIT

1. This permit shall become void if the soils fail to adequately assimilate the septage and shall be rescinded unless the site is maintained and operated in a manner which will protect the assigned water quality standards of both surface and ground waters.
2. This site shall be operated and maintained in accordance with the nutrient management plan submitted by Waste Management of Carolinas, Inc. and approved by the Division of Waste Management. The 39.1 acres site shall be divided into four fields as Field 1 (15.1 acres), Field 2 (6.4 acres), Field 3 (5.2 acres), and Field 4 (12.4 acres). Fields 1 and 4 have an established stand of loblolly and longleaf pine trees. **The management of the pine trees shall follow the recommendations of an established Forester. The understory growth between the rows of pines shall be maintained such as to not interfere with the equal distribution of septage.** Fields 2 and 3 shall be established in bermudagrass. A small grain shall be planted in the fall of each year. The planting and harvest of the crops shall be followed as outlined in the nutrient management plan. The 30-day waiting period between the last application of septage and the harvest of a crop shall be met by alternating septage applications between the other permitted fields. Supplemental nutrients shall be added at rates that do not exceed soil test recommendations or realistic yield expectations (RYE). All discharges shall be consistent with the crop rotation listed in the approved plan.
3. This site shall be operated and maintained in accordance with the soil erosion and runoff control plan submitted by Waste Management of Carolinas, Inc. in such a manner as to prevent the migration of wastes off of the designated waste receiving site. Areas around the permitted pine tree fields shall remain vegetated. Areas around the bermudagrass fields shall be established in bermudagrass with a small grain planted for the winter months. Any site improvements noted in the plan must be installed within 30 days of plan approval. The installation of groundwater monitoring wells shall be required as deemed necessary by the Division.
4. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other local, state, and federal government agencies which have jurisdiction. It is the responsibility of the Permittee to be in compliance with the Federal Regulations listed in the Code of Federal Regulations, 40 CFR Part 503.
5. This permit may be modified or reissued at any time to incorporate any conditions, limitations, and/or monitoring requirements the Division deems necessary to adequately protect the environment and public health.

6. **This site is only permitted for the land application of domestic septage, grease septage, and portable toilet waste.** The pH of domestic septage and/or portable toilet waste shall be raised to 12 or higher by alkali addition and, without the addition of additional alkali, shall remain at 12 or higher for 30 minutes prior to land application. Grease septage or grease septage mixed with domestic septage shall be raised to pH 12 or higher by alkali addition and, without the addition of additional alkali, shall remain at 12 or higher for 2 hours prior to land application. **Grease septage may be land applied without diluting 1:1 with domestic septage or water, if sufficiently processed (dewatered) through the SDTF facility (permit #65-01) and no crop damage occurs.**
7. This site contains approximately 39.1 acres that are available for the land application of septage. **The maximum annual application rate for the pines shall be 25,000 gallons per acre per year, for a total, maximum annual application of 687,500 gallons to Fields 1 and 4. The maximum annual application rate for the bermudagrass with small grain overseed shall be 50,000 gallons per acre per year, for a total, maximum annual application of 580,000 gallons to Fields 2 and 3. The total maximum permitted volume for this site is 1,267,500 gallons per year.** This application rate assumes equal septage distribution, on an annual basis, over the permitted area. Monthly septage applications shall not exceed the monthly relative application rates given in the approved nutrient management plan for the site. Daily septage applications shall be limited to a maximum of 27,154 gallons per acre where allowed based on the crop grown and monthly application rate listed within the nutrient management plan.
8. An approved above ground septage detention system with a minimum design capacity of 25,000 gallons shall be available prior to operation of this site unless an approved wastewater treatment plant is available for use during periods of adverse weather. The storage capacity may be adjusted if it is demonstrated during the operation of the site that this volume of storage is inappropriate.
9. Only the area designated on the attached site map(s) shall be utilized for septage disposal. Septage shall be applied evenly within the permitted boundaries with no standing liquid after the discharge is complete by the use of a spreader vehicle and/or irrigation system. **Waste Management of Carolinas, Inc. must adequately demonstrate to the Division that the irrigation distribution plan will evenly cover the designated areas and not spray septage outside of the permitted boundaries. The Division shall be notified of any proposed changes to the distribution plan prior to implementation.**

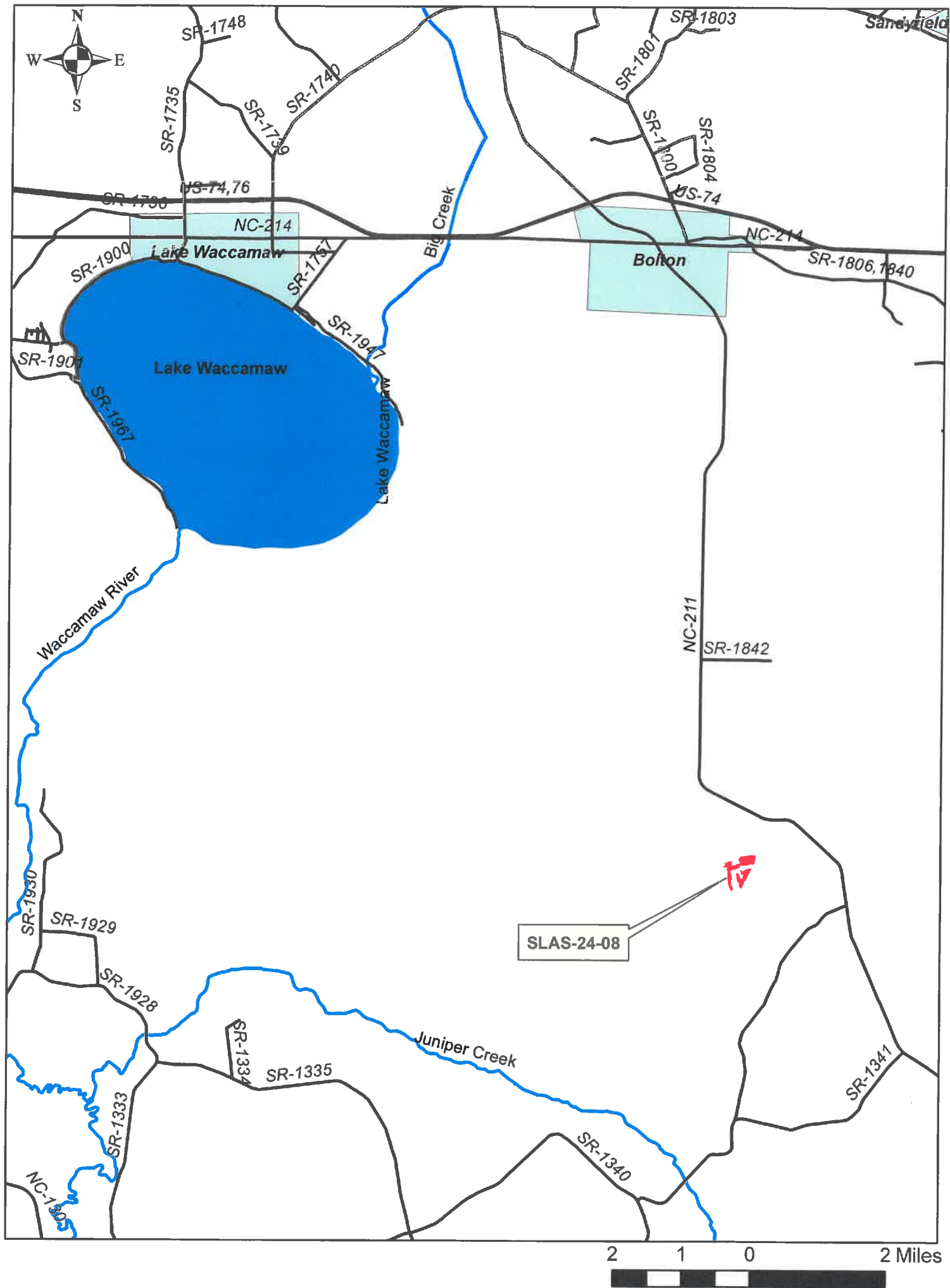
10. Septage shall not be applied during any precipitation event, or if there is standing water on the soil surface, if the soil surface is frozen, or if the soil surface is snow covered. The Permittee shall consider pending weather conditions when making the decision to land apply in order to prevent any discharge of septage outside of the permitted boundary.
11. Septage shall not be applied during periods of high soil moisture. Septage applications that will result in ruts greater than three inches in the soil surface are prohibited.
12. Any discharge of septage outside of the permitted boundaries via runoff, aerial drift, etc. is prohibited.
13. The Permittee shall notify the Division by telephone as soon as possible, but within twenty-four (24) hours of first knowledge, the occurrence of:
  - a. Any discharge of septage outside of the permitted boundaries.
  - b. Any application of septage in excess of the limits listed in Condition 8 of this permit or the nutrient management plan.

For reporting any emergency after normal business hours, contact the Division of Emergency Management at 1-800-858-0368.

14. This permit shall become voidable unless the land application activities are carried out in accordance with the conditions of this permit and in the manner approved by this Division. No one other than the Permittee or an employee of the firm named in this permit shall discharge septage at this site without prior appropriate notification and written approval from the Division.
15. Prior to any transfer of this land, a notice shall be given to the new owner that gives full details of the materials applied or incorporated at this site. The Division shall be notified prior to site closure. This permit is non-transferable.
16. **This permit shall expire on May 4, 2020.** Modifications, when necessary, shall be made in accordance with the rules in effect at the time of renewal. An application for permit renewal shall be submitted at least ninety (90) days prior to the permit renewal date. A septage application log for the period of time this permit was valid shall be submitted along with an application for permit renewal or modification. The information required in the log is described in Rule 15A NCAC 13B .0838 (e) (1) of the NC Septage Management Rules and the Code of Federal Regulations, 40 CFR Part 503.17 (b).

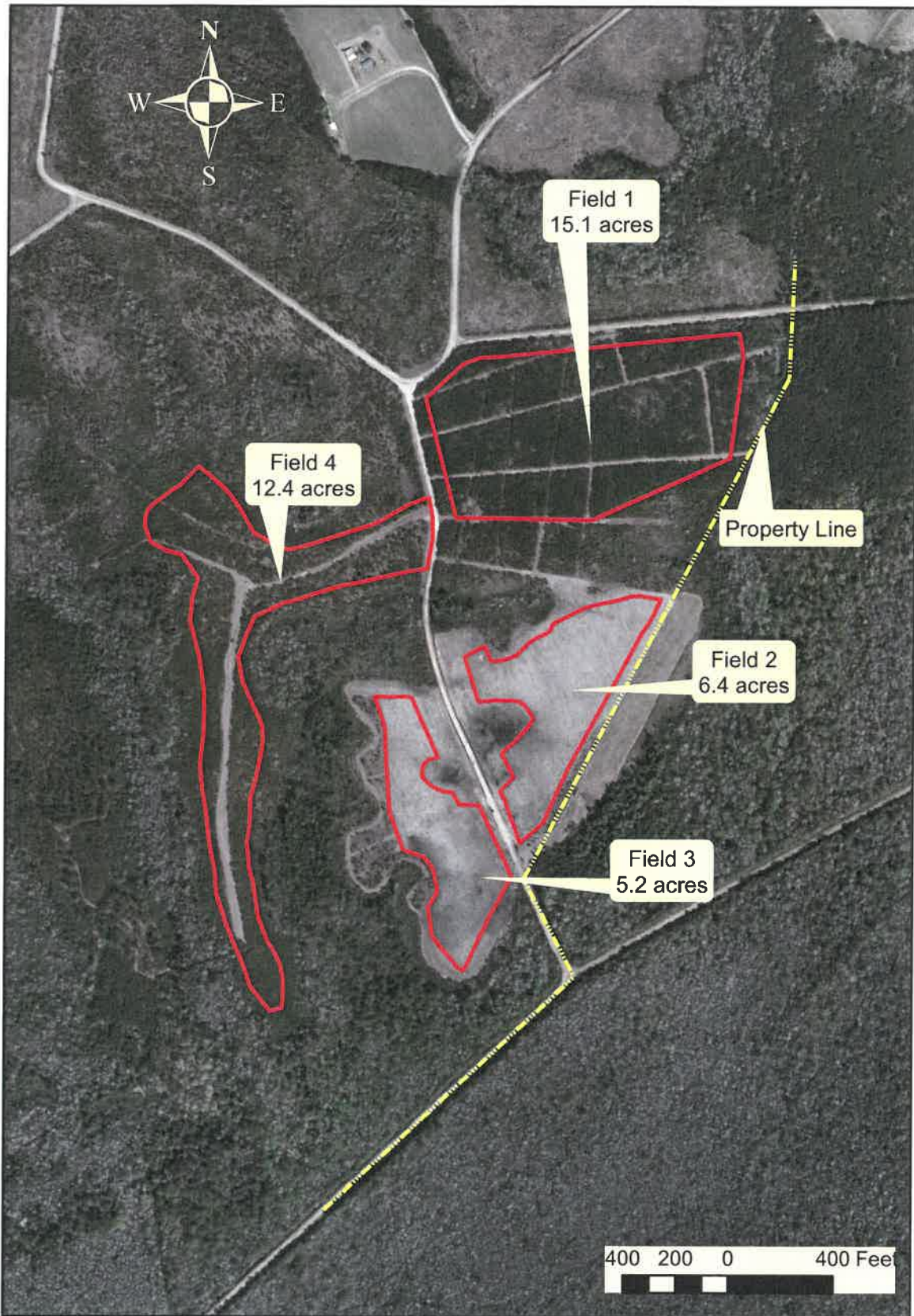
17. Records shall be kept in accordance with 40 CFR 503.17(b). These records shall be made available to a representative of the Division upon request.
18. Any duly authorized officer, employee, or representative of the Division may, upon presentation of credentials, enter and inspect any property, premises, or place on or related to the disposal site and facility at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records that must be kept under the conditions of this permit; or may obtain samples of groundwater, surface water, or leachate.
19. Field separations in the nutrient management plan and all pertinent setbacks shall be clearly located on the site. Boundaries of the permitted septage land application fields shall be clearly marked on the ground.
20. The areas that can be used for land application of septage shall be maintained to meet the minimum setback distances as described in NC Septage Management Rule 15A NCAC 13B .0837 (d) such as 500 feet from any existing wells, residences, places of business, or places of public assembly. Also, septage shall not be disposed of within 50 feet of any property line or within 100 feet of any ditch.
21. **This site is considered inactive until further notice.** Prior to the initial septage application, the site shall be inspected by a representative of the Division to determine compliance with NC Septage Management Rules and all permit conditions. Crops must be present as specified in the nutrient management plan submitted by Waste Management of Carolinas, Inc. Please notify the Division at least two (2) weeks prior to when you wish to reopen the site or field.
22. **Prior to the application of any dewatered septage effluent to the site, the dewatered effluent shall be sampled and analyzed to meet the requirements within NC Septage Management Rules 15A NCAC 13B .0838(b)(7) and .0838(b)(8). Copies of the results shall be submitted to the Division.**
23. This site is permitted as four fields with the following coordinates:

Field ID	Latitude (°N)	Longitude (°E)
1	34.19057	-78.37894
2	34.18772	-78.37904
3	34.18632	-78.38052
4	34.18891	-78.38307





# SLAS-24-08



Source: Aerial image from Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community. Site boundary from NC DENR Division of Waste Management. Map created by NC DENR Division of Waste Management for permitting purposes only.



North Carolina Department of Environment and Natural Resources

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May 7, 2015

Ms. Laura Snow  
Waste Management of the Carolinas, Inc.  
3920 River Road  
Wilmington, NC 28412

**RE: SLAS-24-08 Permit Renewal  
Waste Management of the Carolinas, Inc.  
NC Hwy 211 in Columbus County**

Dear Ms. Snow:

The NC Division of Waste Management has reviewed your application for permit renewal of Septage Land Application Site, **Permit # SLAS-24-08**, in Columbus County. Your application has been approved in accordance with NC Septage Management Rules and your permit, **SLAS-24-08**, is enclosed. **As requested by you, this site is currently considered inactive with the Division. Before septage can be applied to this site, the requirements of Permit Conditions 21 and 22 must be met.**

Please read all permit conditions carefully. Your nutrient management and soil erosion and runoff control plans have been included in your permit. An application for permit renewal must be submitted at least ninety (90) days prior to the permit's expiration date as stated within Permit Condition 16. **The enclosed permit shall expire on May 4, 2020.**

Violations to the NC Septage Management Rules or this permit could subject you to administrative penalties of up to \$15,000 per violation per day. If you have any questions concerning your permit or septage in general, please contact me at (919) 707-8283. When communicating to the Division about this permit, please refer to it as "**SLAS-24-08.**"

Sincerely,

Chester R. Cobb, Soil Scientist  
Division of Waste Management, NCDENR

Enclosures

cc: Central File  
John College, Environmental Senior Specialist  
Columbus County Health Department

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3920 River Road  
Wilmington, NC 28412  
(910) 798-1230

June 3, 2014

Mr. Chester Cobb  
NCDENR Division of Waste Management  
Solid Waste Section - Septage Branch  
217 West Jones Street  
Raleigh, NC 27603

RE: **SLAS-24-08 (Inactive)**  
**Permit Renewal Application Package**  
**Highway 211, Columbus County**  
**Waste Management of Carolinas, Inc.**  
**DBA Waste Management of Wilmington**



Dear Mr. Cobb:

In accordance with Condition 18 of Septage Land Application Site (SLAS) Permit #SLAS-24-08, Waste Management of Carolinas, Inc. (WM) is submitting the following Permit Renewal Application Package. The package includes this cover letter, a completed and signed Application For A Permit to Operate A Septage Land Application Site, facility location and layout maps, Nutrient Management Plan (revised to reflect our revisions made on 5/13/2013), and authorization to discharge treated effluent to a local wastewater treatment plant.

Pursuant to 15A North Carolina Administrative Code (NCAC) 13B.0835(i), we are not resubmitting the original aerial photos or the soils report since no changes have occurred to those items.

Please note that although WM has properly maintained the site, no septage land application activities have been conducted to date. In addition, this application does not request an increased application rate beyond the limits established by the current permit.

As indicated in correspondence from this office to you on June 3, 2013 the facility is currently in Inactive status, and wishes to remain so until further notice.

If additional information is required, please feel free to contact me at (910) 274-8869 or at [scarrol3@wm.com](mailto:scarrol3@wm.com).

Sincerely,  
*For Waste Management of Carolinas, Inc.*

Shawn P. Carroll  
Environmental Protection Manager

cc: Jerry Murrell and Laura Snow, WM of Wilmington

# **ATTACHMENTS**

**ATTACHMENT I**

**APPLICATION FOR A PERMIT TO OPERATE  
A SEPTAGE LAND APPLICATION SITE**

# APPLICATION FOR A PERMIT TO OPERATE A SEPTAGE LAND APPLICATION SITE

North Carolina Department of Environment and Natural Resources  
Division of Waste Management – Solid Waste Section  
401 Oberlin Rd., Ste. 150, Raleigh, N.C. 27605

## I. Site and Operator Information

1. Applicant Waste Management of Carolinas, Inc. -Wilmington Hauling  
Address 3920 River Rd  
Wilmington, NC 28412  
Phone 910-798-1238

2. Contact person for site operation (if different from applicant): Laura Snow  
Title or position District Manager Phone: 910-798-1221  
Address 3920 River Rd  
Wilmington, NC 28412

3. Landowner Waste Management of Carolinas, Inc.  
Address 3920 River Rd  
Wilmington, NC 28412

4. Site Location: County: Columbus State Road Number: NC Hwy 211  
Directions to site: Hwy 74/76 West, Left on Hwy 211 towards Supply. Site is  
Approximately 10 miles on the right.

5. Indicate whether request is: new ☐ renewal ☒ modification ☐

For a permit renewal or modification, provide the following information:

Existing site permit number: SLAS-24-08 permit expiration date: 6/11/2014

6. Number of acres meeting the requirements of the N.C. Septage Management Rules: 39.1

7. Substances other than septage or grease trap pumpings previously disposed of on the site:  
(a) None X, or (b) Attach a list indicating other substances, the amounts discharged, and the dates of discharge.

8. Attach written, notarized landowner authorization to operate a septage disposal site signed by the landowner (if the permit applicant does not own the property). ***If a corporation owns the land use a corporate landowner authorization form. If limited liability company owns the land, use a limited liability company landowner authorization form.***

9. Attach site evaluation report, including aerial photograph and soil analysis with metals results, unless the Division prepared the report. Attached Figure 1

10. Attach a vicinity map (county road map showing site location). Attached Figure 2

(over)

## II. Site Management Information:

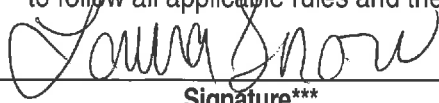
The following information shall be included with the application form:

1. Nutrient Management Plan- Attachment III
2. Soil Erosion and Runoff Control Plan – Attachment III
3. Alternative plan for disposal (detention facility permit number or wastewater treatment plant authorization): SDTF-65-01 (Waste Management of Carolinas, Inc - Wilmington Facility) Cape Fear Public Utility Authority (CFPUA) James A. Loughlin Plant NPDES#NC0023965 Authorizations in Attachment IV
4. Types of septage proposed to be discharged at the site (check all that apply):
  - (a) Domestic septage pumped from septic tanks X
  - (b) Grease trap pumpings X
  - (c) Portable toilet waste X
  - (d) Commercial / Industrial septage \_\_\_\_\_
5. Proposed treatment method of each type of septage to be land applied (use additional paper to explain if necessary): Human septage is to be lime stabilized for a min. of 30 minutes until it reaches a PH of 12. Grease trap waste will be lime stabilized for a min. of two (2) hours until it reaches a PH of 12 before land application.
6. Proposed method of applying septage to land, including septage distribution plan if required \* (use additional paper to explain if necessary): Hose tow spray irrigation system to equally distribute all waste.  
\_\_\_\_\_  
\_\_\_\_\_
7. Demonstration from the appropriate state or federal government agency that the land application site complies with the Endangered Species Law \*\* or if any part of the site specified is not agricultural land (use additional paper to explain if necessary): No endangered Plants or Animals have been determined to be in the spray irrigation site.

### III. Certification

I hereby certify that:

1. The information provided on this application is true, complete, and correct to the best of my knowledge.
2. I have read and understand the N.C. Septage Management Rules, and
3. I am aware of the potential consequences, including penalties and permit revocation, for failing to follow all applicable rules and the conditions of a Septage Land Application Site permit.



Signature\*\*\*

6/3/2014

Date

Laura Snow

Print name

District Manager

Title

**Note:** This application will not be reviewed until all parts of the application are complete.

\* Refer to Section .0821(e) of the N.C. Septage Management Rules.

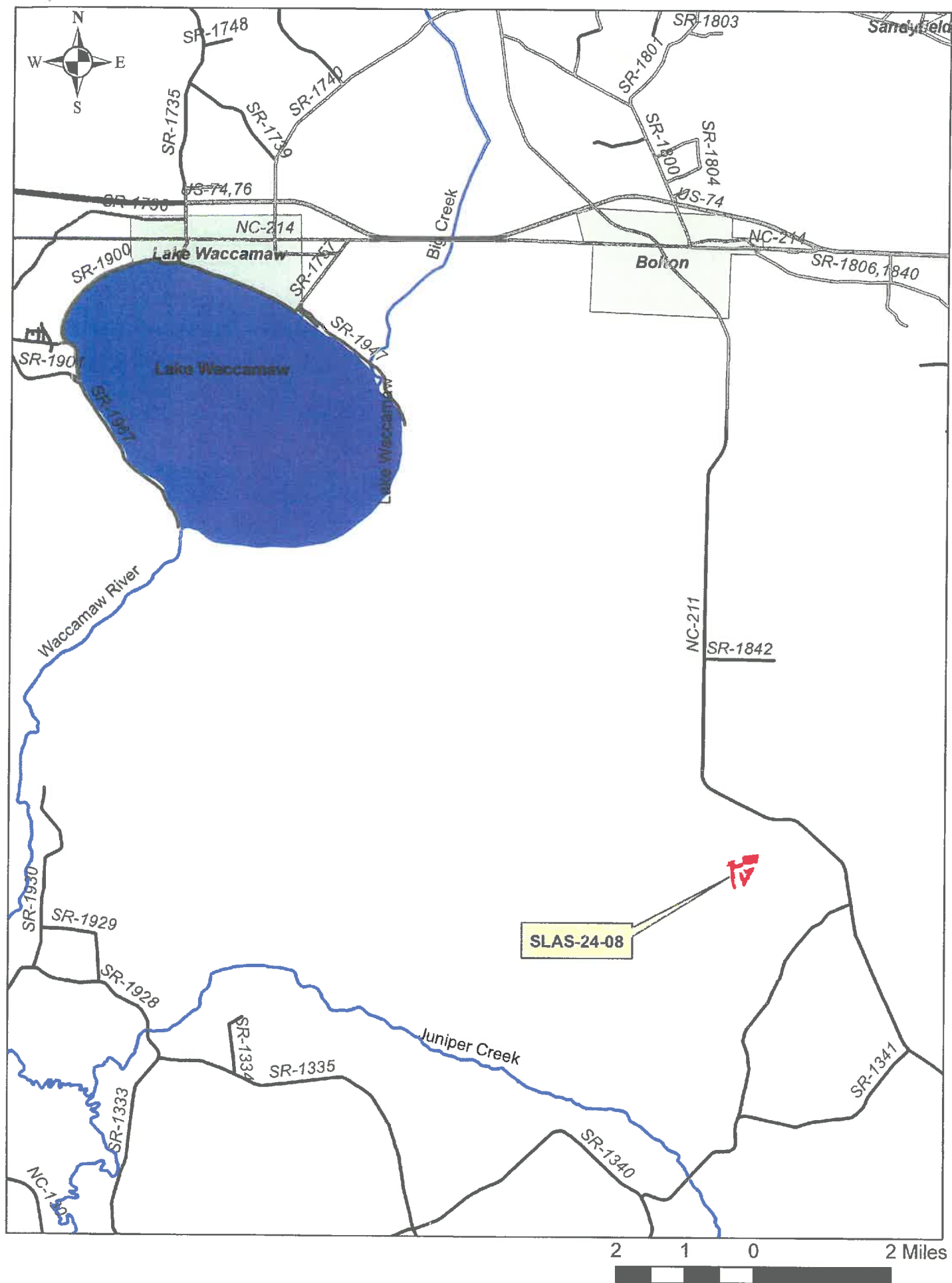
\*\* Refer to Section .0821(g) of the N.C. Septage Management Rules.

\*\*\*Signature of company official required.

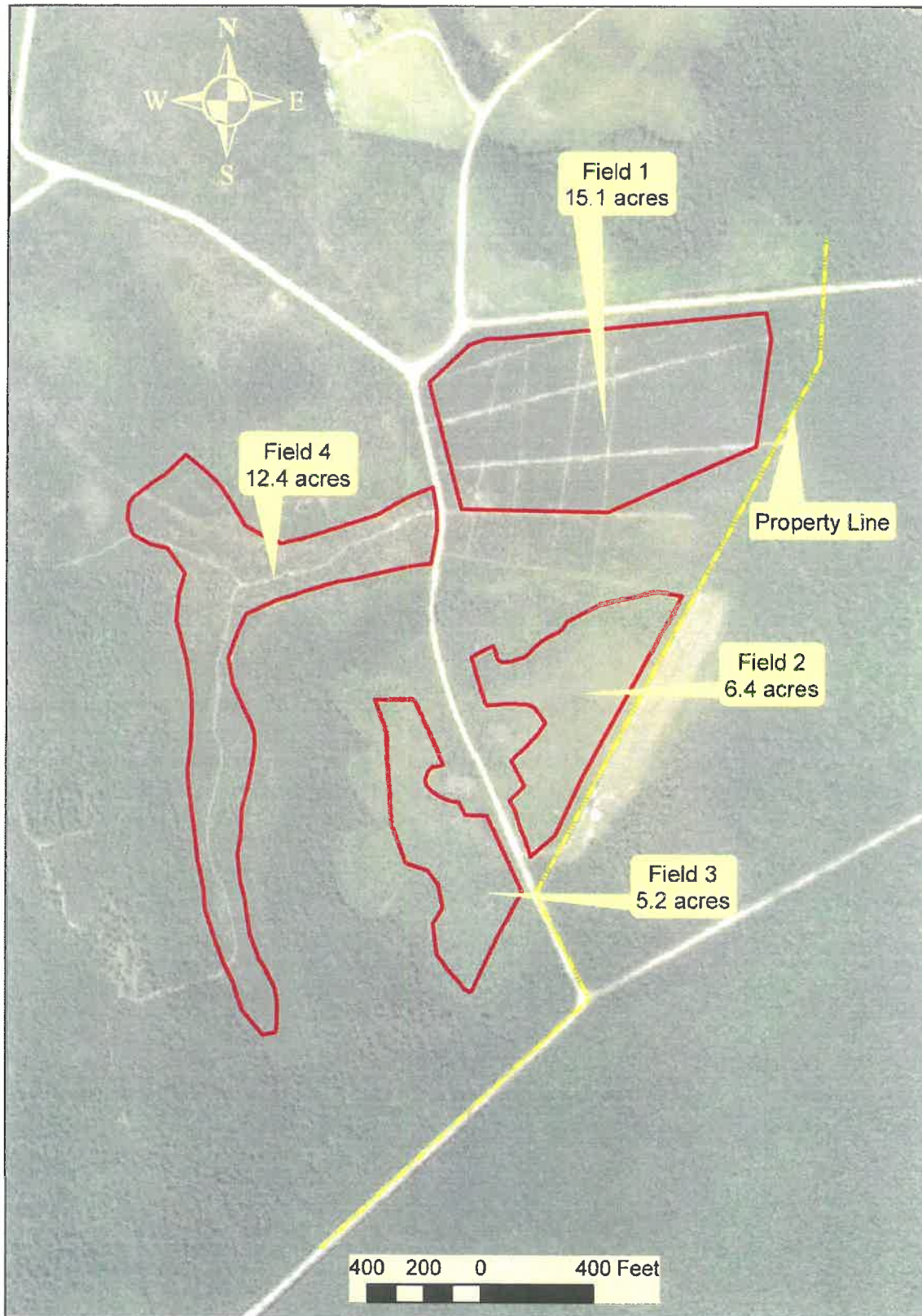


**ATTACHMENT II**

**FIGURES**



# SLAS-24-08



NAD 1983, NC State Plane (FIPS 3200)

Source: 2010 NAIP Color Imagery, NCDA; site boundary, NC DENR Division of Waste Management.

Map created by NCDENR Division of Waste Management, Compost and Land Application Branch for permitting purposes only.

**ATTACHMENT III**

**NUTRIENT MANAGEMENT PLAN**  
**AND**  
**SOIL EROSION AND RUNOFF CONTROL PLAN**

NUTRIENT MANAGEMENT PLAN FOR  
SEPTAGE APPLICATIONS TO BERMUDA GRASS, RYE GRASS and PINES at  
PROPOSED WASTE MANAGEMENT FACILITY  
COLUMBUS COUNTY, NC

Waste Management of Wilmington is proposing to apply dewatered septage, grease trap waste, and portable toilet waste onto a wholly owned parcel in Columbus County. The area assessed for the proposed land application operation is approximately 40 acres of the approximately 600-acre site. Previous assessment of the site identified these 40 acres as most suited for a land based treatment effort. Clearly only a small portion of the property is intended to host this land application operation. The liquid loading to the site is proposed as 50,000 gallons per acre per year during this initial year of the operation. NC Rule dictates this loading for new operations; however, since this is not a new permit for Waste Management, a liquid load based on nutrient levels could be justified.

On occasion, the dewatering operation may be inoperable; should that occur the untreated liquid will be stored at the Wilmington facility, but should the storage capacity be compromised, the untreated liquid may be applied to this site, but would more likely be transported to a permitted wastewater operation such as the City of Wallace or CFPWA. Should the land application option occur, untreated liquid loading to the pines would be reduced to 25,000 gallons per acre while the load to the grassed area would remain at the proposed 50,000 gallon load.

The site contains four (4) distinct areas identified as receiver areas for this liquid waste. These are listed as fields 1 through 4 on site maps contained in the application for the permit. Fields 1 and 4 are intended to remain in a pine stand. Fields 2 and 3 are proposed as small grain and Bermudagrass; however a biofuel crop may be assessed in the near future. This plan is intended for the start-up year of the Waste Management land treatment operation. Subsequent investigation and nutrient plans will be submitted prior to expiration of this initial permit or annually as the cropping system may change to a biofuel crop.

A. General Information:

1. Periodic sampling (at least 4/year) of the dewatered septage/fog/portable toilet waste will be conducted for waste analysis. (optional)
2. Field 1 contains approximately 12 acres and Field 2 contains approximately 10 acres, field 3 contains approximately 6 acres, and field 4 contains approximately 5 acres. The attached copy of the aerial photograph for the site shows field boundaries and identifications. In addition, the GPS coordinates have been provided through DWM.
3. The soil series represented include Goldsboro, Foreston, Butters and Nobuca on portions of the site intended to receive the dewatered materials. RYE calculations are based on the BUTTERS series.
4. Septage will not be applied where the site is untrafficable (untrafficable is defined as soil that will allow a loaded truck to leave a depression in sod greater than 3 inches in depth).

5. Septage storage shall be provided to account for the average volume of septage pumped per week, or an alternative plan, such as disposal at a waste treatment plant, should be in place. Storage provided at Waste Management parent facility in Wilmington, NC.

B. Crops to be grown and approximate planting times:

1. Fields 2 and 3, including buffer zones, will be seeded in a forage-type Bermudagrass such as Cheyenne, at a rate of 15 lb/acre in March-April, in order to establish a permanent stand. Fields 2 and 3 will be over-seeded in small grain to provide winter cover at a rate of 100 lb-rye, wheat, or oats in September-October. This high rate for over-seeding is recommended to assure crop establishment. Pine in fields 1 and 4 will be thinned and utilized as a receiver crop in year 1 through 5 of this project. To promote stand establishment the following steps will be taken the first year (weed control/reduced number of harvests/reduced vehicular traffic, etc): weed control will be implemented in spring 2012 and limited access will be afforded during germination.

Areas that develop with less than 90% groundcover by Bermudagrass will be re-seeded with forage-type Bermudagrass at a rate of 10 lb/acre in March each year until a stand density of 90% is realized.

Each year thereafter, the field will be over-seeded with annual rye grass at a rate of approximately 40-50 lbs/acre September-October (drilled).

The site was permitted, but NO material has been applied to the site since the permit was issued following the OAH hearing process.

2. Field 2 will be treated the same as Field 3. Fields 1 and 4 will remain in a pine stand. The pine stand will be improved in accordance with recommendations provided by Dr. Douglas Frederick, NCSU Forestry and Mr. Scott Frederick, E.I., and president SWE Group.

C. Nutrient analysis for 2012 season:

Samples of the liquid generated in the process were collected and tested to determine the nutrient levels in the liquid. Samples were tested by NCDA and the results are presented below. The test results show wide variation in the levels of N and P in the liquid.

Sample	Concentration (ppm)	Max/1000 gal	RYE Load (Grass) (lb/ac/yr)	Gallons	RYE Load Pines (lb/ac/yr)	Gallons
1 (TN)	127	1.1	295	368K	80	73K
2 (TN)	86.3					
1 (TP)	6.3					
2 (TP)	37.8	0.3	40	2M	16	53K



D. Nitrogen needs for crops grown:

FIELDS 2 and 3: RYE = Realistic Yield Expectations N App. Rate + Suggested N application rate based on RYE for soil type. NOTE: The most restrictive of the soil resources was selected as the benchmark for this site. The nutrient load will be significantly reduced below this maximum because initial year loadings are limited to 50,000 gallons per acre.

Crop (hay)	RYE	N App. Rate	lbs N/acre
Coastal Bermudagrass	5.5 tons/acre x	40 lbs N/dry ton =	220
Annual rye grass	3.0 tons/acre x	25 lbs N/dry ton =	75
Total =			295 (see note above)

Pine stands in FIELDS 1 and 4: RYE = Realistic Yield Expectations N App. Rate + Suggested N application rate based on RYE for soil type. NOTE: The most restrictive of the soil resources was selected as the benchmark for this site. The nutrient load will be significantly reduced below this maximum because initial year loadings are limited to 50,000 gallons per acre. This liquid load is based on the reduced nutrient content in the dewatered materials.

Crop	Site Index	N App. Rate	lbs N/acre
Pine (Loblolly)	86	80	80
Pine (Longleaf)	76	80	80

Phosphorus loading rates are typically not determined, but based on crop tissue analysis and the concentrations measured in the liquid, the phosphorus RYE based loadings are 40 pounds per acre per year for grasses at 6.5 tons yield and 16 pounds for pines. The limiting nutrient load is P based on pines at 53K gal/ac and 73K gal/ac on grasses while the N based on the grasses is over 350K gal/ac.

D1. Relative application rates for Fields 2 and 3:

Month	Field	
	1	2
January	Low	Low
February	Low	Low
March	Medium	Med
April	High	High
May	Medium	Med
June	High	High
July	High	High
August	Medium	Med
September	Medium	Med
October	Low	Low
November	Low	Low
December	Low	Low

D2. Relative application rates for pine stands, fields 1 and 4

Month	Field	
	1	2
January	Low	Low
February	Low	Low
March	Medium	Medium
April	Medium	Medium
May	Medium	Medium
June	Medium	Medium
July	Medium	Medium
August	Medium	Medium
September	Medium	Medium
October	Low	Low
November	Low	Low
December	Low	Low

None = 0 gallons; Low = 5,000 gallons

Medium = 10,000 gallons; High = 15,000 gallons

NOTE: Cumulative application rate is not to exceed the permitted application rate. Annual application rate is not to exceed 50,000 gallons per acre unless approved by NCDWM.

E. Application Method

The preceding information is based on septage being evenly applied over the entire permitted site by hose reel surface application/irrigation spraying in a full circle or part circle pattern depending on field position and applying to areas not irrigated using a tractor towed tank vehicle with rear or side discharge capability.

F. Additional Fertility Requirements

Phosphorus and potassium will be added in accordance with the soil test results for the crops grown on the site. These requirements are contained in the application to utilize the area as a receiver (Rubin and Graham, 2010). Only minimal phosphorus and potassium will be added to support germination. A more thorough nutrient addition program will be implemented as the site is assessed as a receiver area. Dewatered septage, FOG, and portable toilet waste analysis is available. The phosphorus fertilizer requirement can be reduced by accounting for the amount of phosphorus in the septage. The analysis suggests these materials contain sufficient nutrients to support plant growth. The hydro-seeding operation proposed will supply sufficient nutrients to support germination.

The buffer areas will be fertilized with 100 lbs/acre of 10-10-10 N-P-K fertilizer to maintain production based on soil test results. This will take place in the hydro-seeding operation.

G. Harvest of the crops and their use:

1. The Bermudagrass will be cut as hay and baled whenever it reaches approximately 12 inches in height, or roughly every 4 to 6 weeks beginning in June. At least three crop harvests will be removed from fields 2 and 3 each year.
2. The rye grass will be cut as hay and baled in March and April of each year from Fields 2 and 3, respectively.
3. A 30-day waiting period must be observed between the last application of septage and harvest. Beginning about the first of March each year, septage will be applied strictly to Field 2 while the rye on Field 3 is undisturbed for 30 days. After 30 days the rye in Field 2 will be harvested and septage application switched to Field 3. After an additional 30 days, in late April to early May, the rye will be harvested from Field 2. By early May, a rotation will be established which can cycle every 30 to 45 days between Bermudagrass harvests. By the end of October, rye will have been planted and the entire site will be available for septage application until the end of February the following year.
4. The hay will be sold to a local farmer to feed his beef cows and horses.
5. Pine stands will be thinned as directed by Dr. Frederick. Pine will remain in place for at least 2 years. After 2 years, the pine operation will be reassessed. Two potential options include replacing the natural regeneration with an established plantation or replacing the pine with Bermudagrass.

SOIL EROSION AND RUNOFF CONTROL PLAN

Given that slopes on this site do not exceed five percent, a 50 foot buffer, planted in Bermuda and rye grasses on fields 2 and 3 or left as undisturbed pine trees on fields 1 and 4, should suffice to prevent septage waste from migrating off of the fields. (More severe site conditions could require that soil erosion structures be installed before septage can be applied). The buffer applies to site boundaries and a 50 foot vegetated buffer **will** be maintained between ditches and the waste application areas.

Submitted by: Shawn P. Carroll Date: 6/3/2014  
Shawn P. Carroll, Environmental Protection Manager

This nutrient management plan was originally prepared with cooperation from both Scott Frederick and Robert Rubin.

Plan prepared by:

A. R. Rubin

A. R. Rubin

Date: 20 Oct, 2012

Address: 192 Fearrington Post, Pittsboro, NC, 27312

Phone: 919 270 0344

Plan prepared in cooperation with:

A handwritten signature in dark ink, appearing to read "Scott J. Frederick". The signature is fluid and cursive, with a large, stylized initial "S".

Date: 31 Oct, 2012

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Scott J. Frederick, CPSS

3216 Byers Dr., Raleigh, NC, 27607

Certification:

h:\cla\septage\forms\nmp\bermuda\_01.doc

**ATTACHMENT IV**

**ALTERNATE WASTE WATER DISPOSAL  
FACILITY AUTHORIZATIONS**

RECEIVED 4/11/13

## AUTHORIZATION TO DISCHARGE SEPTAGE TO A WASTEWATER TREATMENT FACILITY

North Carolina Department of Environment and Natural Resources  
Division of Waste Management - Solid Waste Section  
401 Oberlin Rd., Ste. 150, Raleigh, N.C. 27605

Fee assessments and waste determinations will be required at the discretion of the wastewater treatment facility. The facility has the ultimate prerogative to deny discharges of any wastes to the incoming wastewater stream.

I, Beth Eckert, Environmental Management Director, James A. Loughlin WWTP NPDES #NC0023965\_\_\_\_\_

(Plant Operator and Name of Plant)

2311 N 23<sup>rd</sup> St, Wilmington, NC

(Address)

910-332-6558

(Phone Number)

do hereby authorize Waste Management Inc.

(Owner/Operator of Septage Management Firm)

of Waste Management of Wilmington

(Septage Management Firm Name and NCS number)

NCS #00121

to dispose of: domestic septage ☒, portable toilet waste ☒,

grease septage (grease trap pumpings) ☒ commercial/industrial septage ☐ N/A, from

New Hanover

(County or other Geographic Area)

at the above named wastewater treatment facility. Septage shall be discharged at:

Septage Receiving Station

(Location)

between the hours of 9:00am-4:00pm

Reintroducing partially treated liquid into a grease trap is acceptable ☐ Yes ☒ No

This authorization shall be valid until December 31, 2016

(Usually December 31, Year)

Signed

*Beth Eckert*

(Facility Operator)

Date

4-2-13

Sworn to and subscribed before me this

2

day of

April

2013

*Ante V. Meier*

(Notary Public)

My Commission expires:

October 28, 2014

(OFFICIAL SEAL)

Note: Falsification of this document by the septage management firm shall lead to permit revocation.

S:/Solid\_Waste/CLA/SEPTAGE/FORMS/2011 Firm Application/WWTP Authorization Form 2011